Regulatory mechanism for expression of GPX1 in response to glucose starvation and Ca in Saccharomyces cerevisiae: involvement of Snf1 and Ras/cAMP pathway in Ca signaling.

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Supplemental Material

Table 1
Strains used in this study

Strain	Relevant genotype	Source
YPH250 (WT)	*MAT***a** *trp1-Δ1 his3-Δ200 leu2-Δ1 lys2-801 ade2-101 ura3-5*	Yeast Genetic Stock Center
gpx1Δ	YPH250, *gpx1Δ::HIS3*	This study
gpx1Δgpx2Δgpx3Δ	YPH250, *gpx1Δ::HIS3 gpx2Δ::KanMX4 gpx3Δ::LEU2*	This study
msn2Δmsn4Δ	YPH250, *msn2Δ::HIS3 msn4Δ::TRP1*	This study
cnb1Δ	YPH250, *cnb1Δ::HIS3*	This study
Integrant of GPX1-lacZ		
GPX1-lacZ	YPH250, *URA3::GPX1-lacZ*	This study
STRE1mut-*GPX1-lacZ*	YPH250, *URA3*::STRE1mut-*GPX1-lacZ*	This study
STRE2mut-*GPX1-lacZ*	YPH250, *URA3*::STRE2mut-*GPX1-lacZ*	This study
STRE1/2mut-*GPX1-lacZ*	YPH250, *URA3*::STRE1/2mut-*GPX1-lacZ*	This study
crz1Δ	YPH250, *crz1Δ::LEU2, URA3::GPX1-lacZ*	This study
hog1Δ	YPH250, *hog1Δ::LEU2, URA3::GPX1-lacZ*	This study
msn2Δmsn4Δ	YPH250, *msn2Δ::HIS3 msn4Δ::TRP1 URA3::GPX1-lacZ*	
msn2Δmsn4Δ ras2Δ	YPH250, *msn2Δ::HIS3 msn4Δ::kanMX4 ras2Δ::TRP1 URA3::GPX1-lacZ*	This study
ras2Δ	YPH250, *ras2Δ::TRP1 URA3::GPX1-lacZ*	This study
Integrant of GPX1-3HA		
GPX1-3HA	YPH250, *gpx1Δ::HIS3 URA3::GPX1-3HA*	This study
msn2Δmsn4Δ	YPH250, *gpx1Δ::HIS3 msn2Δ::KanMX4 msn4Δ::TRP1 URA3::GPX1-3HA*	This study
msn2Δmsn4Δgis1Δ	YPH250, *gpx1Δ::HIS3 msn2Δ::kanMX4 msn4Δ::TRP1 gis1Δ::LEU2 URA3::GPX1-3HA*	This study
ras2Δ	YPH250, *gpx1Δ::HIS3 ras2Δ::TRP1 URA3::GPX1-3HA*	This study
snf1Δ	YPH250, *gpx1Δ::HIS3 snf1Δ::kanMX4 URA3::GPX1-3HA*	This study
W303-1A (WT)	*MAT***a** *trp1-1 leu2-3 his3-11 ura3-1 ade2-1 can1-100*	Lab stock
tos3Δelm1Δsak1Δ	W303-1A, *tos3 elm1 sak1*	Hong & Carlson 2007

Table 2
Primers used in this study

Name of primer	Sequence
CNB1FhincII	5'-CATGTGGCAAGAACAGCGGGATGTATAGGT-3'
CNB1RhincII	5'-ATTACTGAAGGATGCGAGGTTCGAACTCGC-3'
CRZ1-S	5'-TAATATAGTGCAGCATGCAACTTGC-3'
CRZ1-R	5'-CACGTAAAACGGATCCTCATACAATA-3'
GIS1-F	5’-GGATTATGAGCTCTACTTACTGAA-3’
GIS1-R	5’-TTCATTTACGATGCA TGCAAGATTT-3’
GPX1-F	5’-ACCTTTCGATCCATCACCCAATAAA-3’
GPX1-R	5’-GGCTTTTCGGACTCATACCATATAG-3’
GPX2-F	5'-GCCGGCCATATCTAGACAATTAGTA-3'
GPX2-R	5'-GTATTGGATGACGCCACTAAAGATA-3'
GPX3-F	5'-TTGCTGTTCGCGACAGCCCTTATTT-3’
GPX3-R	5'-TTCATCTTCCAATATGTCTTGCAGC-3'
GPX1-lacZ-F	5’-GGAGTCGACGGACTTGATAGAATCCACCTT-3’
GPX1-lacZ-R	5’-GGTGAAAAAGAATGAATTCCTTGCATCGTT-3’
GPX1-HA-F	5’-AGTTAAACTCGAGTATTGGATCCTATAAGG-3’
GPX1-HA-R	5’-TAAAGATCTTCTTCTGGTGGTTGATTCAGT-3’
GPX1-pTBA-2F	5’-ACCCAATAAAACAACTCGAGATAAT-3’
GPX1-pTBA-2R	5’-AGGTGAGCCCCGGCCTCGAGTTCTC-3’
HOG1-F	5'-GGAAGGACGGGTTTTGTCTCATGTTGTTCG-3'
HOG1-R	5'-GGAAGGACGGGTTTTGTCTCATGTTGTTCG-3'
MIG1-F	5’-TGTTCGAGCTCTTGAGTTCTCCTGG-3’
MIG1-R	5’-ACTACGGCACCTACGACACCAATTC-3’
MIG2-F	5’-CGGAGCACCCGCAAAACTGAAGTAA-3’
MIG2-R	5’-ATATAAAAGACCATGCCGGCCGCAA-3’
MSN2ΔHIS3F	5'-TTTGGGGCTTCCTCCACTATCTTTCGACTC-3'
MSN2ΔHIS3R	5'-CATTGAAGCCCCTCTTCATCCTTAGTCCTG-3
MSN4-F	5’-CGTAGACCCCTTCAACATTCTCAAG-3’
MSN4-R	5’-TCTATACGTTAAAACCAGAACGTGC-3’
RAS2-F	5’-GAATAAGGGGATCCGGGAAAACGGG-3’
RAS2-R	5’-GGAACGTCCTCA TATTCACCAACTT-3’
SNF1-F	5’-AGTCACCTTGCTCGGTATTAGTCGT-3’
SNF1-R	5’-GCACTTTGTGGCAAGGAGTAATTAT-3’
SSN6-F	5’-AACCAGAGGCGTATTCCCGTTACCT-3’
SSN6-R	5’-ATAACCTAATTCACGTTACCCACCT-3’
STRE1mut-F	5’-CATTAGTATCATCTTGACATACCCC-3’
STRE1mut-R	5’ GTATGTCAGATGATACTAATGTAT-3’
STRE2mut-F	5’-ATTTGCTTTCATCT TCTGTTCCCTA-3’
STRE2mut-R	5’-GGAACAGAAGATGAAAGCAAATACG-3’
TUP1-F	5’-AACTGGCTGAACACGTGCCCCTCTA-3’
TUP1-R	5’-GGAGCTAACCCTACTGCTTTAGAGA-3’